

## ANALYTICAL REPORT

Job Number: 360-21354-1  
Job Description: Slurry Wall/Cap

CHECKED FOR COMPLETENESS  
OF PARAMETERS ORDERED BY:

*Chris Bernard*

For:  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441  
Attention: Mr. Steven Morrow

*Joseph A. Chimi*

Approved for release:  
Joe Chimi  
Report Production Representative  
3/11/09 3:13 PM

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Designee for  
Becky C Mason  
Project Manager II  
becky.mason@testamericainc.com  
03/11/2009

The test results in this report meet all NELAP requirements for accredited parameters. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced except in full, and with written approval from the laboratory.

TestAmerica Westfield Certifications and Approvals: MADEP MA014, RIDOH57, CTDPH 0494, VT DECWSD, NH DES 2539, NELAP FL E87912 TOX, NELAP NJ MA008 TOX, NELAP NY 10843, NY DOH 10843.

Field sampling is performed under SOPs WE-FLD-001 and WE-FLD-002

**TestAmerica Laboratories, Inc.**

TestAmerica Westfield Westfield Executive Park, 53 Southampton Road, Westfield, MA 01085  
Tel (413) 572-4000 Fax (413) 572-3707 [www.testamericainc.com](http://www.testamericainc.com)



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# MADEP MCP Analytical Method Report Certification Form

Laboratory Name: <b>TestAmerica Westfield</b>	Project #: <b>360-21354-1</b>																		
Project Location: <b>Slurry Wall/Cap</b>	MADEP RTN <sup>1</sup> :																		
This form provides certifications for the following data set:[list Laboratory Sample ID Number(s)] 360-21354-(1-6)																			
Sample Matrices:	<div style="display: flex; justify-content: space-between;"> <span><b>Groundwater</b></span> <span><b>Soil/Sediment</b></span> <span><b>Drinking Water</b></span> <span><b>Other:</b></span> </div>																		
<b>MCP SW-846 Methods Used</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">8260B ( )</td> <td style="width: 25%;">8151A ( )</td> <td style="width: 25%;">8330 ( )</td> <td style="width: 25%;">6010B ( <b>x</b> )</td> <td style="width: 25%;">7470A/1A ( )</td> <td style="width: 25%;">Other ( )</td> </tr> <tr> <td>8270C ( )</td> <td>8081A ( )</td> <td>VPH ( )</td> <td>6020 ( )</td> <td colspan="2">9014M<sup>2</sup>/9012 ( )</td> </tr> <tr> <td>8082 ( )</td> <td>8021B ( )</td> <td>EPH ( )</td> <td>7000 S<sup>3</sup> ( )</td> <td>7196A ( )</td> <td></td> </tr> </table>	8260B ( )	8151A ( )	8330 ( )	6010B ( <b>x</b> )	7470A/1A ( )	Other ( )	8270C ( )	8081A ( )	VPH ( )	6020 ( )	9014M <sup>2</sup> /9012 ( )		8082 ( )	8021B ( )	EPH ( )	7000 S <sup>3</sup> ( )	7196A ( )	
	8260B ( )	8151A ( )	8330 ( )	6010B ( <b>x</b> )	7470A/1A ( )	Other ( )													
	8270C ( )	8081A ( )	VPH ( )	6020 ( )	9014M <sup>2</sup> /9012 ( )														
8082 ( )	8021B ( )	EPH ( )	7000 S <sup>3</sup> ( )	7196A ( )															
As specified in MADEP Compendium of Analytical Methods. (check all that apply)	<div style="border: 1px solid black; padding: 5px;"> 1 List Release Tracking Number (RTN), if known  2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method  3 S - SW-846 Methods 7000 Series List individual method and analyte. </div>																		

## An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

<b>A</b>	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	Yes √	No <sup>1</sup>
<b>B</b>	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	Yes √	No <sup>1</sup>
<b>C</b>	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, " Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes √	N/A No <sup>1</sup>
<b>D</b>	<b>VPH and EPH methods only:</b> Was the VPH or EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)?	Yes √	N/A No <sup>1</sup>

## A response to questions E and F below is required for "Presumptive Certainty" status

<b>E</b>	Were all QC performance standards and recommendations for the specified methods achieved?	Yes √	No <sup>1</sup>
<b>F</b>	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes √	N/A No <sup>1</sup>

<sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case narrative.



I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

<b>Signature:</b>  <b>Printed Name:</b> <u>Christine Reynolds</u>	<b>Position:</b> <u>Quality Assurance Manager</u> <b>Date:</b> <u>3/11/09 15:03</u>
---	--

The certification form has been electronically signed and approved.

CAM VII A, Rev 3.2

April-04

 <small>THE LEADER IN ENVIRONMENTAL TESTING</small>	MADEP MA014 NY DOH 10843 RI DOH 57 CT DPH 0494 VT DECWSD	NELAP FL E87912 TOX NELAP NJ MA008 TOX NELAP NY 10843 NH DES 253901-A
		
TestAmerica Westfield 53 Southampton Rd, Westfield, MA 01085 Tel: (413) 572-4000 Fax: (413) 572-3707		

WI-QA-037

# MADEP MCP Analytical Method Report Certification Form

Laboratory Name: <b>TestAmerica Westfield</b>	Project #: <b>360-21354-1</b>
Project Location: <b>Slurry Wall/Cap</b>	MADEP RTN <sup>1</sup> :
This form provides certifications for the following data set:[list Laboratory Sample ID Number(s)] 360-21354-(1-6)	
Sample Matrices:	<div style="display: flex; justify-content: space-between;"> <span><b>Groundwater</b></span> <span><b>Soil/Sediment</b></span> <span><b>Drinking Water</b></span> <span><b>Other:</b></span> </div>
<b>MCP SW-846 Methods Used</b>	<div style="display: flex; justify-content: space-between;"> <span>8260B ( )</span> <span>8151A ( )</span> <span>8330 ( )</span> <span>6010B ( )</span> <span>7470A/1A ( )</span> <span>Other ( x )</span> </div>
	<div style="display: flex; justify-content: space-between;"> <span>8270C ( )</span> <span>8081A ( )</span> <span>VPH ( )</span> <span>6020 ( )</span> <span>9014M<sup>2</sup>/9012 ( )</span> </div>
	<div style="display: flex; justify-content: space-between;"> <span>8082 ( )</span> <span>8021B ( )</span> <span>EPH ( )</span> <span>7000 S<sup>3</sup> ( )</span> <span>7196A ( )</span> </div>
As specified in MADEP Compendium of Analytical Methods. (check all that apply)	<div style="border: 1px solid black; padding: 5px;"> 1 List Release Tracking Number (RTN), if known  2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method  3 S - SW-846 Methods 7000 Series List individual method and analyte. </div>

## An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

<b>A</b>	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	Yes √	No <sup>1</sup>
<b>B</b>	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	Yes √	No <sup>1</sup>
<b>C</b>	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, " Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes √	N/A No <sup>1</sup>
<b>D</b>	<b>VPH and EPH methods only:</b> Was the VPH or EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)?	Yes √	N/A No <sup>1</sup>

## A response to questions E and F below is required for "Presumptive Certainty" status

<b>E</b>	Were all QC performance standards and recommendations for the specified methods achieved?	Yes √	No <sup>1</sup>
<b>F</b>	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes √	N/A No <sup>1</sup>

<sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case narrative.


**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

<b>Signature:</b>  <b>Printed Name:</b> <u>Christine Reynolds</u>	<b>Position:</b> <u>Quality Assurance Manager</u> <b>Date:</b> <u>3/11/09 15:03</u>
---	--

The certification form has been electronically signed and approved.

CAM VII A, Rev 3.2

April-04

 <small>THE LEADER IN ENVIRONMENTAL TESTING</small>	MADEP MA014 NY DOH 10843 RI DOH 57 CT DPH 0494 VT DECWSD	NELAP FL E87912 TOX NELAP NJ MA008 TOX NELAP NY 10843 NH DES 253901-A	TestAmerica Westfield 53 Southampton Rd, Westfield, MA 01085 Tel:(413)572-4000 Fax:(413)572-3707
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WI-QA-037

## **CASE NARRATIVE**

**Client: Olin Corporation**

**Project: Slurry Wall/Cap**

**Report Number: 360-21354-1**

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues as stipulated in the MCP reporting requirements.

In order to facilitate report review, a separate MCP Analytical Method Report Certification Form is included for each method requested.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy "MCP program" reporting limits in some cases if the "adjusted" RL is greater than the applicable MCP standards or criterion to which the concentration is being compared. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes which exceed the calibration range.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

The samples were received on 02/26/2009; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.2°C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC and MADEP standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

MCP regulatory standard criteria were not specified for this report. Therefore, method reporting limits (RLs) were not assessed against any MCP standards as it may pertain to Question "E" on the Presumptive Certainty Certification Form (MADEP reference: WSC-CAM-AN-093008 - WSC-CAM Analytical Notes).

### **DISSOLVED METALS**

Samples 360-21354-1 through 360-21354-6 were analyzed for dissolved metals in accordance with EPA SW846 Method 6010B. The samples were analyzed on 02/27/2009.

All QA/QC procedures required to meet Presumptive Certainty for the specified analytical method were performed as per section B of the MADEP MCP analytical method report Certification form.

All QC performance standards and recommendations, which may affect Data Usability for this specific method, were achieved.

**General method information:**

Chromium was detected in method blank MB 360-41739/2 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

**The following reported methods are not listed in the MADEP Massachusetts Contingency Plan (MCP) Compendium of Analytical Methods (CAM), pursuant to the provisions of 310 CMR 40.0017(2).**

**ANIONS**

Samples 360-21354-1 through 360-21354-6 were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 03/09/2009 and 03/10/2009.

All QC performance standards and recommendations for this specific method were achieved with the exception of:

Chloride failed the MS/MSD recovery criteria low for the matrix spike and matrix spike duplicate of sample 360-21354-5. The associated LCS recovered within control limits. Refer to the QC report for details.

Samples 360-21354-1 through 360-21354-5(10X), 360-21354-5(20X) and 360-21354-6(10X) required dilution prior to analysis. The reporting limits have been adjusted accordingly. Dilutions were due to high target concentration.

**AMMONIA**

Samples 360-21354-1 through 360-21354-6 were analyzed for ammonia in accordance with LACHAT 107-06-1B. The samples were prepared on 03/03/2009 and 03/05/2009 and analyzed on 03/04/2009 and 03/06/2009.

All QC performance standards and recommendations for this specific method were achieved with the exception of:

Ammonia failed the MS/MSD recovery criteria low for the matrix spike and matrix spike duplicate of sample 360-21354-2. The associated LCS recovered within control limits. Refer to the QC report for details.

Samples 360-21354-1(10X), 360-21354-2(10X), 360-21354-3(20X), 360-21354-4(10X), 360-21354-5(20X) and 360-21354-6(10X) required dilution prior to analysis. The reporting limits have been adjusted accordingly. Dilutions were due to high concentration.

**SPECIFIC CONDUCTANCE (CONDUCTIVITY)**

Samples 360-21354-1 through 360-21354-6 were analyzed for Specific Conductance (Conductivity) in accordance with SM 2510B. The samples were analyzed on 03/02/2009.

All QC performance standards and recommendations for this specific method were achieved.

*This case narrative is available in Word format upon request.*

## METHOD SUMMARY

Client: Olin Corporation

Job Number: 360-21354-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Dissolved Metals	TAL WFD	SW846 6010B	
Sample Filtration, Field	TAL WFD		FIELD_FLTRD
Chloride & Sulfate	TAL WFD	40CFR136A 300.0	
Nitrogen Ammonia	TAL WFD	LACHAT L107-06-1B	
Distillation, Ammonia	TAL WFD		Distill/Ammonia
Conductivity, Specific Conductance	TAL WFD	SM SM 2510B	

### Lab References:

TAL WFD = TestAmerica Westfield

### Method References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

LACHAT = LACHAT

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## METHOD / ANALYST SUMMARY

Client: Olin Corporation

Job Number: 360-21354-1

Method	Analyst	Analyst ID
SW846 6010B	Nasiatka, Ellen M	EMN
40CFR136A 300.0	Lalashius, Andrew L	ALL
LACHAT L107-06-1B	Lalashius, Andrew L	ALL
SM SM 2510B	Emerich, Rich W	RWE



## SAMPLE SUMMARY

Client: Olin Corporation

Job Number: 360-21354-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
360-21354-1	OC-GW-202S	Ground Water	02/25/2009 0910	02/26/2009 1650
360-21354-2	OC-PZ-18R	Ground Water	02/25/2009 1030	02/26/2009 1650
360-21354-3	OC-GW-79S	Ground Water	02/25/2009 1140	02/26/2009 1650
360-21354-4	OC-PZ-17RR	Ground Water	02/25/2009 1030	02/26/2009 1650
360-21354-5	OC-GW-202D	Ground Water	02/25/2009 0915	02/26/2009 1650
360-21354-6	OC-GW-78S	Ground Water	02/25/2009 1155	02/26/2009 1650

# **SAMPLE RESULTS**

Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-GW-202S  
Lab Sample ID: 360-21354-1

Date Sampled: 02/25/2009 0910  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed: 02/27/2009 1449		
Aluminum	ND	ug/L	2.2	100	1.0
Chromium	4.3 JB	ug/L	0.17	5.0	1.0

*W. J. Miller* 5/19/09

Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-GW-202S  
Lab Sample ID: 360-21354-1

Date Sampled: 02/25/2009 0910  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: 300.0</b>					
Sulfate	500	mg/L	20	20	10
Chloride	50 J	mg/L	10	10	10
<b>Method: L107-06-1B</b>					
<b>Prep Method: Distill/Ammonia</b>					
Ammonia	99	mg/L	1.0	1.0	10
<b>Method: SM 2510B</b>					
Specific Conductance	1400	umhos/cm	1.0	1.0	1.0

*Signature* 5/19/09

Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-PZ-18R  
Lab Sample ID: 360-21354-2

Date Sampled: 02/25/2009 1030  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method: Dissolved-6010B</b>			Date Analyzed: 02/27/2009 1507		
Aluminum	4.6 J	ug/L	2.2	100	1.0
Chromium	15 <del>B</del>	ug/L	0.17	5.0	1.0

*Handwritten signature: J. G. [unclear] 5/19/09*

Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-PZ-18R  
Lab Sample ID: 360-21354-2

Date Sampled: 02/25/2009 1030  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
<b>Method: 300.0</b>					
Sulfate	220	mg/L	20	20	10
Chloride	130 J	mg/L	10	10	10
<b>Method: L107-06-1B</b>					
<b>Prep Method: Distill/Ammonia</b>					
Ammonia	76	mg/L	1.0	1.0	10
<b>Method: SM 2510B</b>					
Specific Conductance	1000	umhos/cm	1.0	1.0	1.0

*[Handwritten Signature]* 5/19/09

Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-GW-79S  
Lab Sample ID: 360-21354-3

Date Sampled: 02/25/2009 1140  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method: Dissolved-6010B</b>					
Aluminum	18 J	ug/L	2.2	100	1.0
Chromium	6.6 <del>B</del>	ug/L	0.17	5.0	1.0

Date Analyzed: 02/27/2009 1510

*Handwritten signature* 5/12/09

Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-GW-79S  
Lab Sample ID: 360-21354-3

Date Sampled: 02/25/2009 1140  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0					
Sulfate	1100	mg/L	20	20	10
Chloride	170 J	mg/L	10	10	10
Method: L107-06-1B					
Prep Method: Distill/Ammonia					
Ammonia	190	mg/L	2.0	2.0	20
Method: SM 2510B					
Specific Conductance	3200	umhos/cm	1.0	1.0	1.0

*W. W. W. W. W. 5/19/09*



Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-PZ-17RR  
Lab Sample ID: 360-21354-4

Date Sampled: 02/25/2009 1030  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed: 02/27/2009 1513		
Aluminum	4.6 J	ug/L	2.2	100	1.0
Chromium	2.9 JB	ug/L	0.17	5.0	1.0

*Handwritten signature* 5/19/09

Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-PZ-17RR  
Lab Sample ID: 360-21354-4

Date Sampled: 02/25/2009 1030  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0 Chloride	17 <i>J</i>	mg/L	1.0	1.0	1.0
Method: 300.0 Sulfate	510	mg/L	20	20	10
Method: L107-06-1B Prep Method: Distill/Ammonia Ammonia	75	mg/L	1.0	1.0	10
Method: SM 2510B Specific Conductance	1400	umhos/cm	1.0	1.0	1.0

*[Signature]* 5/19/09

Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-GW-202D  
Lab Sample ID: 360-21354-5

Date Sampled: 02/25/2009 0915  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed: 02/27/2009 1516		
Aluminum	14000	ug/L	2.2	100	1.0
Chromium	940	ug/L	0.17	5.0	1.0

*W. J. P. 2/27/09* 5/19/09

Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-GW-202D  
Lab Sample ID: 360-21354-5

Date Sampled: 02/25/2009 0915  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0 Chloride	300 5	mg/L	10	10	10
Method: 300.0 Sulfate	2000	mg/L	40	40	20
Method: L107-06-1B Prep Method: Distill/Ammonia Ammonia	360	mg/L	2.0	2.0	20
Method: SM 2510B Specific Conductance	5100	umhos/cm	1.0	1.0	1.0

 5/19/09

Mr. Steven Morrow  
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Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-GW-78S  
Lab Sample ID: 360-21354-6

Date Sampled: 02/25/2009 1155  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
<b>Method: Dissolved-6010B</b>			Date Analyzed: 02/27/2009 1519		
Aluminum	7.7 J	ug/L	2.2	100	1.0
Chromium	5.5 B	ug/L	0.17	5.0	1.0

*W. J. D. Carter* 5/19/09

Mr. Steven Morrow  
Olin Corporation  
3855 North Ocoee Street  
Suite 200  
Cleveland, TN 37312-4441

Job Number: 360-21354-1

Client Sample ID: OC-GW-78S  
Lab Sample ID: 360-21354-6

Date Sampled: 02/25/2009 1155  
Date Received: 02/26/2009 1650  
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0 Chloride	22 <i>J</i>	mg/L	1.0	1.0	1.0
Date Analyzed:			03/10/2009 0045		
Method: 300.0 Sulfate	620	mg/L	20	20	10
Date Analyzed:			03/10/2009 0100		
Method: L107-06-1B Prep Method: Distill/Ammonia Ammonia	94	mg/L	1.0	1.0	10
Date Analyzed:			03/06/2009 1336		
Date Prepared:			03/05/2009 1145		
Method: SM 2510B Specific Conductance	1300	umhos/cm	1.0	1.0	1.0
Date Analyzed:			03/02/2009 1208		

*W. J. Morrow* 5/19/09

## DATA REPORTING QUALIFIERS

Client: Olin Corporation

Job Number: 360-21354-1

Lab Section	Qualifier	Description
Metals		
	B	Compound was found in the blank and sample.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	F	MS or MSD exceeds the control limits
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

# **QUALITY CONTROL RESULTS**



## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Metals</b>					
<b>Analysis Batch:360-41739</b>					
LCS 360-41739/1	Lab Control Spike	T	Water	6010B	
LCSD 360-41739/7	Lab Control Spike Duplicate	T	Water	6010B	
MB 360-41739/2	Method Blank	T	Water	6010B	
360-21354-1	OC-GW-202S	D	Water	6010B	
360-21354-1DU	Duplicate	D	Water	6010B	
360-21354-1MS	Matrix Spike	D	Water	6010B	
360-21354-2	OC-PZ-18R	D	Water	6010B	
360-21354-3	OC-GW-79S	D	Water	6010B	
360-21354-4	OC-PZ-17RR	D	Water	6010B	
360-21354-5	OC-GW-202D	D	Water	6010B	
360-21354-6	OC-GW-78S	D	Water	6010B	

#### Report Basis

D = Dissolved

T = Total

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>General Chemistry</b>					
<b>Analysis Batch:360-41761</b>					
LCS 360-41761/1	Lab Control Spike	T	Water	SM 2510B	
MB 360-41761/12	Method Blank	T	Water	SM 2510B	
360-21354-1	OC-GW-202S	T	Water	SM 2510B	
360-21354-2	OC-PZ-18R	T	Water	SM 2510B	
360-21354-3	OC-GW-79S	T	Water	SM 2510B	
360-21354-4	OC-PZ-17RR	T	Water	SM 2510B	
360-21354-5	OC-GW-202D	T	Water	SM 2510B	
360-21354-6	OC-GW-78S	T	Water	SM 2510B	
360-21354-6DU	Duplicate	T	Water	SM 2510B	
<b>Prep Batch: 360-41845</b>					
LCS 360-41845/2-A	Lab Control Spike	T	Water	Distill/Ammonia	
MB 360-41845/1-A	Method Blank	T	Water	Distill/Ammonia	
360-21354-1	OC-GW-202S	T	Water	Distill/Ammonia	
<b>Analysis Batch:360-41860</b>					
LCS 360-41845/2-A	Lab Control Spike	T	Water	L107-06-1B	360-41845
MB 360-41845/1-A	Method Blank	T	Water	L107-06-1B	360-41845
360-21354-1	OC-GW-202S	T	Water	L107-06-1B	360-41845
<b>Prep Batch: 360-41915</b>					
LCS 360-41915/2-A	Lab Control Spike	T	Water	Distill/Ammonia	
MB 360-41915/1-A	Method Blank	T	Water	Distill/Ammonia	
360-21354-2	OC-PZ-18R	T	Water	Distill/Ammonia	
360-21354-2MS	Matrix Spike	T	Water	Distill/Ammonia	
360-21354-2MSD	Matrix Spike Duplicate	T	Water	Distill/Ammonia	
360-21354-3	OC-GW-79S	T	Water	Distill/Ammonia	
360-21354-4	OC-PZ-17RR	T	Water	Distill/Ammonia	
360-21354-5	OC-GW-202D	T	Water	Distill/Ammonia	
360-21354-6	OC-GW-78S	T	Water	Distill/Ammonia	
<b>Analysis Batch:360-41958</b>					
LCS 360-41915/2-A	Lab Control Spike	T	Water	L107-06-1B	360-41915
MB 360-41915/1-A	Method Blank	T	Water	L107-06-1B	360-41915
360-21354-2	OC-PZ-18R	T	Water	L107-06-1B	360-41915
360-21354-2MS	Matrix Spike	T	Water	L107-06-1B	360-41915
360-21354-2MSD	Matrix Spike Duplicate	T	Water	L107-06-1B	360-41915
360-21354-3	OC-GW-79S	T	Water	L107-06-1B	360-41915
360-21354-4	OC-PZ-17RR	T	Water	L107-06-1B	360-41915
360-21354-5	OC-GW-202D	T	Water	L107-06-1B	360-41915
360-21354-6	OC-GW-78S	T	Water	L107-06-1B	360-41915

TestAmerica Westfield

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>General Chemistry</b>					
<b>Analysis Batch:360-42066</b>					
LCS 360-42066/2	Lab Control Spike	T	Water	300.0	
MB 360-42066/1	Method Blank	T	Water	300.0	
360-21354-1	OC-GW-202S	T	Water	300.0	
360-21354-2	OC-PZ-18R	T	Water	300.0	
360-21354-3	OC-GW-79S	T	Water	300.0	
360-21354-4	OC-PZ-17RR	T	Water	300.0	
<b>Analysis Batch:360-42067</b>					
LCS 360-42067/2	Lab Control Spike	T	Water	300.0	
MB 360-42067/1	Method Blank	T	Water	300.0	
360-21354-5	OC-GW-202D	T	Water	300.0	
360-21354-5MS	Matrix Spike	T	Water	300.0	
360-21354-5MSD	Matrix Spike Duplicate	T	Water	300.0	
360-21354-6	OC-GW-78S	T	Water	300.0	
<b>Analysis Batch:360-42070</b>					
LCS 360-42070/2	Lab Control Spike	T	Water	300.0	
MB 360-42070/1	Method Blank	T	Water	300.0	
360-21354-5	OC-GW-202D	T	Water	300.0	
360-21354-5MS	Matrix Spike	T	Water	300.0	
360-21354-5MSD	Matrix Spike Duplicate	T	Water	300.0	

#### Report Basis

T = Total

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### Method Blank - Batch: 360-41739

Method: 6010B  
Preparation: N/A

*disolved*  
*total*

Lab Sample ID: MB 360-41739/2  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/27/2009 1429  
Date Prepared: N/A

Analysis Batch: 360-41739  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 720 ES ICP  
Lab File ID: N/A  
Initial Weight/Volume:  
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	MDL	RL
Aluminum	ND		2.2	100
Chromium	0.24	J	0.17	5.0

### Lab Control Spike/ Lab Control Spike Duplicate Recovery Report - Batch: 360-41739

Method: 6010B  
Preparation: N/A

LCS Lab Sample ID: LCS 360-41739/1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/27/2009 1426  
Date Prepared: N/A

Analysis Batch: 360-41739  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 720 ES ICP  
Lab File ID: N/A  
Initial Weight/Volume:  
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 360-41739/7  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/27/2009 1501  
Date Prepared: N/A

Analysis Batch: 360-41739  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 720 ES ICP  
Lab File ID: N/A  
Initial Weight/Volume:  
Final Weight/Volume: 10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Aluminum	98	97	80 - 120	1	20		
Chromium	99	98	80 - 120	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### Matrix Spike - Batch: 360-41739

Method: 6010B  
Preparation: N/A

Lab Sample ID: 360-21354-1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/27/2009 1455  
Date Prepared: N/A

Analysis Batch: 360-41739  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 720 ES ICP  
Lab File ID: N/A  
Initial Weight/Volume:  
Final Weight/Volume: 10 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	ND	5000	4700	94 ✓	75 - 125	
Chromium	4.3 J	1000	931	93 ✓	75 - 125	

### Duplicate - Batch: 360-41739

Method: 6010B  
Preparation: N/A

Lab Sample ID: 360-21354-1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 02/27/2009 1452  
Date Prepared: N/A

Analysis Batch: 360-41739  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 720 ES ICP  
Lab File ID: N/A  
Initial Weight/Volume:  
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Aluminum	ND	ND	NC ✓	20	
Chromium	4.3 J	4.24	1 ✓	20	J

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### Method Blank - Batch: 360-42066

Method: 300.0

Preparation: N/A

Lab Sample ID: MB 360-42066/1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/09/2009 1641  
Date Prepared: N/A

Analysis Batch: 360-42066  
Prep Batch: N/A  
Units: mg/L

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Sulfate	ND ✓		2.0	2.0
Chloride	ND ✓		1.0	1.0

### Lab Control Spike - Batch: 360-42066

Method: 300.0

Preparation: N/A

Lab Sample ID: LCS 360-42066/2  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/09/2009 1656  
Date Prepared: N/A

Analysis Batch: 360-42066  
Prep Batch: N/A  
Units: mg/L

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	80.2	100 ✓	85 - 115	
Chloride	40.0	40.1	100 ✓	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### Method Blank - Batch: 360-42067

Method: 300.0  
Preparation: N/A

Lab Sample ID: MB 360-42067/1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/09/2009 2315  
Date Prepared: N/A

Analysis Batch: 360-42067  
Prep Batch: N/A  
Units: mg/L

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Sulfate	ND		2.0	2.0
Chloride	ND		1.0	1.0

### Lab Control Spike - Batch: 360-42067

Method: 300.0  
Preparation: N/A

Lab Sample ID: LCS 360-42067/2  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/09/2009 2330  
Date Prepared: N/A

Analysis Batch: 360-42067  
Prep Batch: N/A  
Units: mg/L

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	80.4	100	85 - 115	
Chloride	40.0	40.1	100	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 360-42067**

**Method: 300.0  
Preparation: N/A**

MS Lab Sample ID: 360-21354-5  
Client Matrix: Water  
Dilution: 10  
Date Analyzed: 03/10/2009 0015  
Date Prepared: N/A

Analysis Batch: 360-42067  
Prep Batch: N/A

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 10 mL

MSD Lab Sample ID: 360-21354-5  
Client Matrix: Water  
Dilution: 10  
Date Analyzed: 03/10/2009 0030  
Date Prepared: N/A

Analysis Batch: 360-42067  
Prep Batch: N/A

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Chloride	70	66	75 - 125	✓ 5.9	20	F	F

*W. J. White*  
5/12/09

Calculations are performed before rounding to avoid round-off errors in calculated results.



## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### Method Blank - Batch: 360-42070

**Method: 300.0**  
**Preparation: N/A**

Lab Sample ID: MB 360-42070/1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/10/2009 1617  
Date Prepared: N/A

Analysis Batch: 360-42070  
Prep Batch: N/A  
Units: mg/L

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Sulfate	ND ✓		2.0	2.0
Chloride	ND ✓		1.0	1.0

### Lab Control Spike - Batch: 360-42070

**Method: 300.0**  
**Preparation: N/A**

Lab Sample ID: LCS 360-42070/2  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/10/2009 1632  
Date Prepared: N/A

Analysis Batch: 360-42070  
Prep Batch: N/A  
Units: mg/L

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	79.3	99 ✓	85 - 115	
Chloride	40.0	39.8	99 ✓	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 360-42070

Method: 300.0  
Preparation: N/A

MS Lab Sample ID: 360-21354-5  
Client Matrix: Water  
Dilution: 20  
Date Analyzed: 03/10/2009 1702  
Date Prepared: N/A

Analysis Batch: 360-42070  
Prep Batch: N/A

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 10 mL

MSD Lab Sample ID: 360-21354-5  
Client Matrix: Water  
Dilution: 20  
Date Analyzed: 03/10/2009 1717  
Date Prepared: N/A

Analysis Batch: 360-42070  
Prep Batch: N/A

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Sulfate	80	78	75 - 125	0	20	4	4

2.5  
3/10/09

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### Method Blank - Batch: 360-41845

**Method: L107-06-1B**  
**Preparation: Distill/Ammonia**

Lab Sample ID: MB 360-41845/1-A  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/04/2009 1714  
Date Prepared: 03/03/2009 1320

Analysis Batch: 360-41860  
Prep Batch: 360-41845  
Units: mg/L

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Ammonia	ND /		0.10	0.10

### Lab Control Spike - Batch: 360-41845

**Method: L107-06-1B**  
**Preparation: Distill/Ammonia**

Lab Sample ID: LCS 360-41845/2-A  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/04/2009 1715  
Date Prepared: 03/03/2009 1320

Analysis Batch: 360-41860  
Prep Batch: 360-41845  
Units: mg/L

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	10.0	9.44	94 /	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### Method Blank - Batch: 360-41915

**Method: L107-06-1B**  
**Preparation: Distill/Ammonia**

Lab Sample ID: MB 360-41915/1-A  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/06/2009 1307  
Date Prepared: 03/05/2009 1145

Analysis Batch: 360-41958  
Prep Batch: 360-41915  
Units: mg/L

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Ammonia	ND /		0.10	0.10

### Lab Control Spike - Batch: 360-41915

**Method: L107-06-1B**  
**Preparation: Distill/Ammonia**

Lab Sample ID: LCS 360-41915/2-A  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/06/2009 1308  
Date Prepared: 03/05/2009 1145

Analysis Batch: 360-41958  
Prep Batch: 360-41915  
Units: mg/L

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	10.0	9.20	92 /	85 - 115	

### Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 360-41915

**Method: L107-06-1B**  
**Preparation: Distill/Ammonia**

MS Lab Sample ID: 360-21354-2  
Client Matrix: Water  
Dilution: 10  
Date Analyzed: 03/06/2009 1332  
Date Prepared: 03/05/2009 1145

Analysis Batch: 360-41958  
Prep Batch: 360-41915

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 360-21354-2  
Client Matrix: Water  
Dilution: 10  
Date Analyzed: 03/06/2009 1332  
Date Prepared: 03/05/2009 1145

Analysis Batch: 360-41958  
Prep Batch: 360-41915

Instrument ID: No Equipment Assigned  
Lab File ID: N/A  
Initial Weight/Volume: 1.0 mL  
Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Ammonia	1	-86	75 - 125	12	20	4	4

195 W/Signature 5/13/09

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Olin Corporation

Job Number: 360-21354-1

### Method Blank - Batch: 360-41761

**Method: SM 2510B**  
**Preparation: N/A**

Lab Sample ID: MB 360-41761/12  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/02/2009 1212  
Date Prepared: N/A

Analysis Batch: 360-41761  
Prep Batch: N/A  
Units: umhos/cm

Instrument ID: MAN-TECH Ion Plus  
Lab File ID: N/A  
Initial Weight/Volume:  
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Specific Conductance	ND		1.0	1.0

### Lab Control Spike - Batch: 360-41761

**Method: SM 2510B**  
**Preparation: N/A**

Lab Sample ID: LCS 360-41761/1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/02/2009 1156  
Date Prepared: N/A

Analysis Batch: 360-41761  
Prep Batch: N/A  
Units: umhos/cm

Instrument ID: MAN-TECH Ion Plus  
Lab File ID: N/A  
Initial Weight/Volume:  
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Specific Conductance	1420	1410	99	85 - 115	

### Duplicate - Batch: 360-41761

**Method: SM 2510B**  
**Preparation: N/A**

Lab Sample ID: 360-21354-6  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 03/02/2009 1209  
Date Prepared: N/A

Analysis Batch: 360-41761  
Prep Batch: N/A  
Units: umhos/cm

Instrument ID: MAN-TECH Ion Plus Autoti  
Lab File ID: N/A  
Initial Weight/Volume:  
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Specific Conductance	1300	1340	3.0	20	

*m/ptch*  
5/19/09

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Login Sample Receipt Check List

Client: Olin Corporation

Job Number: 360-21354-1

Login Number: 21354

List Source: TestAmerica Westfield

Creator: Rinard, Kimberley A

List Number: 1

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	2.2 C
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

Client: Olin Chemical/MACTEC		Project #: 610790016/04		Job#		Quote#	
Address: 51 Eames Street Wilmington, MA 01887		Project Manager: PETER THOMPSON Work ID: PEMP Slurry Wall		Shaded areas for office use		Comments (Special Instructions)	
Phone: _____ Fax: _____		Contact: David Chapman		Analysis Requested Check analysis and specify method and analytes in comments section. For example: 500-series for drinking water 600-series for waste water 8000-series for haz/solid waste Use comments section to further define.		MCP case narrative	
Requested Turn Around Time 10 Business Day (Std) <u>XX</u> Rush TAT Requested: 15 Business Day _____ 24 hrs _____ 72 hrs _____ Other _____ 48 hrs _____ 5 Day _____		Regulatory Classification / Special Report Format NPDES _____ Drinking Water _____ DEP Form(s) _____ RCRA _____ MCP GW1/S1 _____ MWRA Smart Rpt _____ Other _____ MCP QA/QC Rpt <u>XX</u>		Shaded areas for office use Analysis Requested Check analysis and specify method and analytes in comments section. For example: 500-series for drinking water 600-series for waste water 8000-series for haz/solid waste Use comments section to further define.		DO NOT EAT NITRATE  Dissolved metals are field filtered.  Groundwater Metals: Dissolved Al/Cr  Surfacewater Metals: Dissolved/Total Al/Cr/Na	
Sample Type Codes WW-Wastewater DW-Drinking water SW-Surfacewater LW-Labwater GW-Groundwater A-Air S-Solid / Soil SL-Studge O-Oil Z-Other		Sample ID OC - GW - 2025 OC - PZ - 18R OC - GW - 79S OC - PZ - 17RR OC - GW - 202D OC - GW - 78S		Date Collected 2/25/09 2/25/09 2/25/09 2/25/09 2/25/09 2/25/09		Time Collected 0910 1030 1140 1030 0915 1155	
Sample Type GW DLG DLG DLG DLG DLG DLG		Sample's Initials DLG DLG DLG DLG DLG DLG		Comp. Grab X X X X X X		# Containers 3 3 3 3 3 3	
Plastic(P) or Glass(G) P P P P P P		NaHSO4/MeOH XX XX XX XX XX XX		HNO3 to pH < 2 XX XX XX XX XX XX		H2SO4 to pH < 2 XX XX XX XX XX XX	
HCl to pH < 2 XX XX XX XX XX XX		NaOH to pH > 12 XX XX XX XX XX XX		NaOH/ZNAC XX XX XX XX XX XX		None / 4° C XX XX XX XX XX XX	
Ammonia-Nitrogen XX XX XX XX XX XX		Chloride, Sulfate XX XX XX XX XX XX		Specific Conductivity XX XX XX XX XX XX		Nitrate, Nitrite XX XX XX XX XX XX	
Groundwater metals XX XX XX XX XX XX		Surfacewater metals XX XX XX XX XX XX		Sediment: Al/Cr/Fe XX XX XX XX XX XX		Other XX XX XX XX XX XX	
Other XX XX XX XX XX XX		Other XX XX XX XX XX XX		Other XX XX XX XX XX XX		Other XX XX XX XX XX XX	
Other XX XX XX XX XX XX		Other XX XX XX XX XX XX		Other XX XX XX XX XX XX		Other XX XX XX XX XX XX	
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Other XX XX XX XX XX XX		Other XX XX XX XX XX XX		Other XX XX XX XX XX XX		Other XX XX XX XX XX XX	
Other XX XX XX XX XX XX		Other XX XX XX XX XX XX					